AMENDMENTS TO THE CLAIMS

1. (Currently amended) ~~Method of hot-shaping a steel part, wherein:~~

~~a billet of steel is obtained with the following composition;~~

~~0.35% ≤ C ≤ 2.5%~~

~~0.10% ≤ Mn ≤ 2.5%~~

~~0.60% ≤ Si ≤ 3.0%, with preferably Mn%./Si%.≥ 0.4~~

~~traces ≤ Cr ≤ 4.5%~~

~~traces ≤ Mo ≤ 2.0%~~

~~traces ≤ Ni ≤ 4.5%~~

~~traces ≤ V ≤ 0.5%~~

~~traces ≤ Cu ≤ 4% with Cu ≤ Ni% + 0.6 Si% if Cu ≥ 0.5%~~

~~traces ≤ Al ≤ 0.060%~~

~~traces ≤ Ca ≤ 0.050%~~

~~traces ≤ B ≤ 0.01%~~

~~traces ≤ S ≤ 0.200%~~

~~traces ≤ Te ≤ 0.020%~~

~~traces ≤ Se ≤ 0.040%~~

~~traces ≤ Pb ≤ 0.070%~~

~~traces ≤ Nb ≤ 0.050%~~

~~traces ≤ Ti ≤ 0.050%~~

~~optionally: traces ≤ P% ≤ 0.200%, traces ≤ Bi ≤ 0.200%, traces ≤ Sn ≤ 0.200%, traces ≤ As ≤ 0.200%, traces ≤ Sb ≤ 0.200%, with P% + Bi% + Sn% + As% + Sb% ≤ 0.200%, the remainder being iron and impurities resulting from the manufacture.~~

~~a heat treatment is if need be applied to it, which gives it a globular primary structure;~~

~~it is heated to an intermediate temperature between its solidus temperature and its liquidus temperature under conditions such that the solid fraction has a globular structure;~~

~~thixoforging of the said billet is carried out so as to obtain the said part;~~

~~and cooling of the said part is carried out~~

A method of hot-shaping a steel part, which comprises obtaining a billet of steel with the following composition:

0.35% ≤ C ≤ 2.5%

0.10% ≤ Mn ≤ 2.5%

0.60% ≤ Si ≤ 3.0%

traces ≤ Cr ≤ 4.5%

traces ≤ Mo ≤ 2.0%

traces ≤ Ni ≤ 4.5%

traces ≤ V ≤ 0.5%

traces ≤ Cu ≤ 4% with Cu ≤ Ni% + 0.6 Si% if Cu ≥ 0.5%

traces ≤ Al ≤ 0.060%

traces ≤ Ca ≤ 0.050%

traces ≤ B ≤ 0.01%

traces ≤ S ≤ 0.200%

traces ≤ Te ≤ 0.020%

traces ≤ Se ≤ 0.040%

traces ≤ Pb ≤ 0.070%

traces ≤ Nb ≤ 0.050%

traces ≤ Ti ≤ 0.050%

optionally: traces ≤ P% ≤ 0.200%, traces ≤ Bi ≤ 0.200%, traces ≤ Sn ≤ 0.200%, traces ≤ As ≤ 0.200%, traces ≤ Sb ≤ 0.200%, with P% + Bi% + Sn% + As% + Sb% ≤ 0.200%, the remainder being iron and impurities resulting from the manufacture;

heating the billet to an intermediate temperature between its solidus temperature and its liquidus temperature under conditions such that the solid fraction of the billet has a globular structure;

thixoforging the billet so as to obtain the said part;

and cooling the said part.

2. (Currently amended) The method according to ~~Method as claimed in~~ Claim 1, wherein the said thixoforging takes place in a zone of temperatures where the liquid material fraction present in the billet is between 10 and 40%.

3. (Currently amended) The method according to ~~Method as claimed in~~ Claim 1, wherein the said cooling is effected in still air.

4. (Currently amended) The method according to ~~Method as claimed in~~ Claim 2, wherein the said cooling is effected in still air.

5. (Currently amended) The method according to ~~Method as claimed in~~ Claim 3, wherein the said cooling is carried out at a speed lower than that which would obtain natural cooling in air.

6. (Currently amended) The method according to ~~Method as claimed in~~ Claim 4, wherein the said cooling is carried out at a speed lower than that which would obtain natural cooling in air.

7. (Currently amended) A steel part ~~Steel part wherein it is~~ obtained by a hot-shaping method as claimed in Claim 1.

8. (New) The method according to Claim 1, wherein the Mn and Si contents of the billet satisfy the relationship $Mn\%/Si\% \geq 0.4$.

9. (New) The method according to Claim 1, which further comprises heat treating the billet to give the billet a globular primary structure, before heating the billet to the intermediate temperature.